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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/733,995	GHASEMI ET AL.
	Examiner	Art Unit	
	DOUGLAS C. GODBOLD	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>24 August 2008</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☐ Claim(s) <u>1-16</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☐ Claim(s) <u>1-16</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This Office action is in reference to correspondence filed August 24, 2008 in

reference to application 10/733,995. Claims 1-16 are pending and have been examined.

2.   Applicant's request for reconsideration of the finality of the rejection of the last

Office action is persuasive and, therefore, the finality of that action is withdrawn.

Response to Arguments

3.   With regards to applicant's arguments, see remarks page 9, that the subject

matter of claims 7-12 provides a useful, concrete and tangible result, the examiner

respectfully disagrees. The computer program product of claims 7-12 is directed at

mere computer code. Computer code on its own cannot possibly result in a useful,

concrete and tangible result as it is a mere set of instructions readable only to a

computer. A computer system executing the code is necessary to produce useful,

concrete and tangible results. Therefore claims 7-12 produce no useful, concrete and

tangible result.

4.   Applicant's arguments with respect to claims 1-16 in regards to prior art

rejections have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6.   Claims 7-12 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. Claim 7 attempts to claim a computer program

product, which is mere computer code, something that is considered non-statutory

under 35 U.S.C. 101. Therefore claim 7 is rejected as well as claims 8-12 as being

dependent of claim 7.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Mahajan et al. (US Patent 7,117,153) in view of in view of Guerra (US PAP

2002/0188,451)

9.   Consider claim 1, Mahajan teaches a method of evaluating the quality of voice

input recognition by a voice system (figure 2, shows a method for evaluating recognition

in a voice system such as figure 1, connected to Wide area Network 173, that could be

used to access data.), said method comprising the steps of:

extracting a current grammar (text words in the recognition model to be evaluated) from the voice system (a portion of training text is selected to be spoken 304, Figure 3, Column 5 line 11.);

generating a test input for the current grammar, the test input including a test pattern and a set of active grammars for the current grammar (At step 202, a portion of training data 304 is spoken by a person 308 to generate a test signal, in order to test the recognition models; Column 5 line 11.);

providing the test input to the voice system (voice recognition system software) (The acoustic signal is converted into waveforms by receiver 309 and feature extractor 310, and the feature vectors are provided to a decoder 312; column 5 lines 13-15.);

analyzing the test pattern with respect to the set of active grammars with a speech recognition engine in the voice system (At step 204, the predicted sequence of speech units is aligned with the actual sequence of speech units from training data 304; column 5. line 37.); and

deriving a measure of quality of recognition for the current grammar (Under one embodiment, this objective function is an error function that indicates the degree to which the predicted sequence of speech units differs from the actual sequence of speech units after the alignment is complete; column 5, lines 44-47.).

But Mahajan does not specifically teach that the voice system is a voice portal.

In the same field of speech systems, Guerra teaches that the voice system is a voice portal (voice portal system, figure 4 and abstract.)

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention for a voice portal to be the voice system being tested and developed as

taught by Guerra with the testing system of Mahajan in order to facilitate the desired

feature of Guerra on the fly grammar updates (Guerra 0108).

10.   Consider claim 7, Mahajan teaches a computer program product (figure 1 shows

memories 141, 151, 152, 155, and 156 capable of storing the computer code) for

evaluating the quality of voice input recognition by a voice system (figure 2, shows a

method for evaluating recognition in a voice system such as figure 1, connected to Wide

area Network 173, that could be used to access data.), said computer program product

comprising computer usable program code including a routine set of instructions which

when executed by a machine cause the machine to perform the steps of:

extracting a current grammar (text words in the recognition model to be

evaluated) from the voice system (a portion of training text is selected to be spoken 304,

Figure 3, Column 5 line 11.);

generating a test input for the current grammar, the test input including a test

pattern and a set of active grammars for the current grammar (At step 202, a portion of

training data 304 is spoken by a person 308 to generate a test signal; Column 5 line

11.);

providing the test input to the voice system (speech recognition system of figure

1) (The acoustic signal is converted into feature vectors by receiver 309 and feature

extractor 310, and the feature vectors are provided to a decoder 312; column 5 lines 13-15.);

analyzing the test pattern with respect to the set of active grammars with a speech recognition engine in the voice system (At step 204, the predicted sequence of speech units is aligned with the actual sequence of speech units from training data 304; column 5. line 37.); and

deriving a measure of quality of recognition for the current grammar (Under one embodiment, this objective function is an error function that indicates the degree to which the predicted sequence of speech units differs from the actual sequence of speech units after the alignment is complete; column 5, lines 44-47.)

But Mahajan does not specifically teach that the voice system is a voice portal.

In the same field of speech systems, Guerra teaches that the voice system is a voice portal (voice portal system, figure 4 and abstract.)

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention for a voice portal to be the voice system being tested and developed as taught by Guerra with the testing system of Mahajan in order to facilitate the desired feature of Guerra on the fly grammar updates (Guerra 0108).

11.   Claims 3, 4, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahajan et al. (US Patent 7,117,153) in view of in view of Guerra (US PAP 2002/0188,451) as applied to claims 1 and 7 above and further in view of Yuschik (US Patent 7,139,706).

12.   Consider claim 3, Mahajan and Guerra does not specifically teach modifying the

current grammar to create a modified grammar if the measure of quality of recognition

for the current grammar deviates from a pre-determined range

        In the same field of grammar modification, Yuschik teaches modifying the current

grammar to create a modified grammar (word list to be used for recognition) if the

measure of quality of recognition for the current grammar deviates from a pre-

determined range (figure 3, step 340 does an acoustic analysis to determine similarity in

order to reduce recognition error, step 350 selects alternative words if necessary,

thereby providing a less confusable alternative to the words available to be recognized;

column 11 line 34- column 13 line 3).

        Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use the grammar modification as taught by Yuschik with the system

of Mahajan and Guerra in order to facilitate the desired recognition grammar updating

contemplated in Yuschik 0100-0108.

13.   Consider claim 4, Mahajan and Guerra suggests the method of claim 3, further

comprising the steps of:

14.   (i) generating a test input for the modified grammar, the test input including a test

pattern and a set of active grammars for the grammar (Mahajan At step 202, a portion

of training data 304 is spoken by a person 308 to generate a test signal, in order to test

the recognition models; Column 5 line 11.);

(ii) providing the test input for the modified grammar to the voice portal ()
(Mahajan, the acoustic signal is converted into waveforms by receiver 309 and feature
extractor 310, and the feature vectors are provided to a decoder 312; column 5 lines 13-
15.);

(iii) analyzing the test pattern for the modified grammar with respect to the set of
active grammars corresponding to the modified grammar with the speech recognition
engine in the voice portal (At step 204, the predicted sequence of speech units is
aligned with the actual sequence of speech units from training data 304; column 5. line
37);

(iv) deriving a measure of quality of recognition of the modified grammar (Under
one embodiment, this objective function is an error function that indicates the degree to
which the predicted sequence of speech units differs from the actual sequence of
speech units after the alignment is complete; column 5, lines 44-47.); and

Mahajan and Guerra do not suggest that these steps are complete on modified
grammar, and

(v) re-modifying the modified grammar and repeating steps (i) through (iv) until
the measure of quality of recognition of the modified grammar does not deviate from a
pre-determined range.

In the same field of updating grammars, Yuschik suggests that these steps are
complete on modified grammar, and

(v) re-modifying the modified grammar and repeating steps (i) through (iv) until
the measure of quality of recognition of the modified grammar does not deviate from a

pre-determined range. (This is merely reanalyzing the output of the recognizer after the

grammar has been updated. Figure 3 of Yuschik shows that the acoustical analysis of

340 is repeated until the acoustical difference is great enough to allow for accurate

speech recognition.

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use this step of repeated analysis as taught by Yuschik in the system

of Mahajan and Guerra as it would be useful to determine the recognizably of any

alternative words entered into the grammar by the modifying step, thereby insuring that

the change increased the performance of the recognizer.

15.   Consider claim 9, Mahajan and Guerra does not specifically teach modifying the

current grammar to create a modified grammar if the measure of quality of recognition

for the current grammar deviates from a pre-determined range

In the same field of grammar modification, Yuschik teaches modifying the current

grammar to create a modified grammar (word list to be used for recognition) if the

measure of quality of recognition for the current grammar deviates from a pre-

determined range (figure 3, step 340 does an acoustic analysis to determine similarity in

order to reduce recognition error, step 350 selects alternative words if necessary,

thereby providing a less confusable alternative to the words available to be recognized;

column 11 line 34- column 13 line 3).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use the grammar modification as taught by Yuschik with the system

of Mahajan and Guerra in order to facilitate the desired recognition grammar updating

contemplated in Yuschik 0100-0108

16.   Consider claim 10, Mahajan and Guerra suggests the computer program product

of claim 9, further comprising the steps of:

       i) generating a test input for the modified grammar, the test input including a test

pattern and a set of active grammars for the grammar (Mahajan At step 202, a portion

of training data 304 is spoken by a person 308 to generate a test signal, in order to test

the recognition models; Column 5 line 11.);

       (ii) providing the test input for the modified grammar to the voice portal ()

(Mahajan, the acoustic signal is converted into waveforms by receiver 309 and feature

extractor 310, and the feature vectors are provided to a decoder 312; column 5 lines 13-

15.);

       (iii) analyzing the test pattern for the modified grammar with respect to the set of

active grammars corresponding to the modified grammar with the speech recognition

engine in the voice portal (At step 204, the predicted sequence of speech units is

aligned with the actual sequence of speech units from training data 304; column 5. line

37);

       (iv) deriving a measure of quality of recognition of the modified grammar (Under

one embodiment, this objective function is an error function that indicates the degree to

which the predicted sequence of speech units differs from the actual sequence of

speech units after the alignment is complete; column 5, lines 44-47.); and

Mahajan and Guerra do not suggest that these steps are complete on modified grammar, and

(v) re-modifying the modified grammar and repeating steps (i) through (iv) until the measure of quality of recognition of the modified grammar does not deviate from a pre-determined range.

In the same field of updating grammars, Yuschik suggests that these steps are complete on modified grammar, and

(v) re-modifying the modified grammar and repeating steps (i) through (iv) until the measure of quality of recognition of the modified grammar does not deviate from a pre-determined range. (This is merely reanalyzing the output of the recognizer after the grammar has been updated. Figure 3 of Yuschik shows that the acoustical analysis of 340 is repeated until the acoustical difference is great enough to allow for accurate speech recognition.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use this step of repeated analysis as taught by Yuschik in the system of Mahajan and Guerra as it would be useful to determine the recognizably of any alternative words entered into the grammar by the modifying step, thereby insuring that the change increased the performance of the recognizer.

17.   Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahajan in view of Guerra as applied to claims 1 and 7 above and further in view of Reich (US PAP 2002/0173955) .

18.   Consider claim 2, Mahajan and Guerra teaches the method of claim 1, Mahajan
further teaches including comparing recognition results for the test input with an
expected value to assess the measure of quality of recognition (Under one embodiment,
this objective function is an error function that indicates the degree to which the
predicted sequence of speech units differs from the actual sequence of speech units
after the alignment is complete; column 5, lines 44-47.). but does not specifically teach
wherein said deriving step includes the step of deriving a confidence level and a set of
n-best results for the test input, and further comprising the steps of:

comparing the confidence level and set of n-best results for the test input with an
expected value to assess the measure of quality of recognition.

In the same field of speech recognition, Reich teaches the step of deriving a
confidence level and a set of n-best results for the test input (figure 4 shows step 420,
confidence scores are determined, step 460 N best candidates are selected. The N-best
candidate with the highest confidence level would inherently exceed the expected
value.),

Therefore it would have been obvious to one of ordinary skill in the art at the time
of the invention to use the confidence scores and N best candidates as taught by Reich
and compare them with an expected value to determine a quality of the recognition as
taught by Mahajan and Guerra in order to provide a more robust method of evaluating a
recognition system by allowing one to spot ambiguities in the recognition.

Consider claim 8, Mahajan and Guerra teaches computer program product of claim 7, Mahajan further teaches including comparing recognition results for the test input with an expected value to assess the measure of quality of recognition (Under one embodiment, this objective function is an error function that indicates the degree to which the predicted sequence of speech units differs from the actual sequence of speech units after the alignment is complete; column 5, lines 44-47.). but does not specifically teach wherein said deriving step includes the step of deriving a confidence level and a set of n-best results for the test input, and further comprising the steps of:

comparing the confidence level and set of n-best results for the test input with an expected value to assess the measure of quality of recognition.

In the same field of speech recognition, Reich teaches the step of deriving a confidence level and a set of n-best results for the test input (figure 4 shows step 420, confidence scores are determined, step 460 N best candidates are selected. The N-best candidate with the highest confidence level would inherently exceed the expected value.),

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the confidence scores and N best candidates as taught by Reich and compare them with an expected value to determine a quality of the recognition as taught by Mahajan and Guerra in order to provide a more robust method of evaluating a recognition system by allowing one to spot ambiguities in the recognition.

19.   Claims 5, 6, 11-13, 15, and 16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Mahajan in view of Guerra as applied to claims 1 and 7 above and

further in view of Randic (US Patent 6,275,797).

20.   Consider claim 5, Mahajan and Guerra teaches the method of claim 1, but does

not specifically teach modifying the test pattern to emulate one or more user voices prior

to entering the test input into the voice portal.

        In the same field of speech testing, Randic suggests modifying the test pattern to

emulate one or more user voices prior to entering the test input into the voice portal

(Figure 1 shows using a voice test file generated by a TTS engine used to test the voice

path using recognition. This is a similar technique used to test the quality of recognition

in Mahajan. Using a computer generated voice to generate the test file, Column 3 line

27, would inherently allow the test pattern to emulate whatever voice the computer

generation system was configured to produce. Further, it is well known in the art that

TTS engines can be configured to allow for the generation of multiple voice types,

although the claim language suggest that just one voice could be used.).

        Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use the computerized speech generation as taught by Randic in

place of the human speaker as taught by Mahajan and Guerra in order to allow the

speech recognizer to become more flexible through the quality analysis.

21.   Consider claim 6, Mahajan and Guerra teaches the method of claim 1, but does not specifically teach modifying the test pattern to emulate the influence of one or more communications network qualities prior to entering the test input into the voice portal.

In the same field of speech testing, Randic teaches modifying the test pattern to emulate the influence of one or more communications network qualities prior to entering the test input into the voice portal (figure 3 shows passing the voiced speech pattern through a transmission scheme in order to evaluate the effect that the voice channel has on recognition; column 4, line 31- column 7 line 29.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the analysis of the voice channel as taught by Randic with the speech recognition quality evaluation of Mahajan and Guerra in order to make the speech recognizer more robust.

22.   Consider claim 11, Mahajan and Guerra teaches the computer program product of claim 7, but does not specifically teach modifying the test pattern to emulate one or more user voices prior to entering the test input into the voice portal.

In the same field of speech testing, Randic teaches modifying the test pattern to emulate one or more user voices prior to entering the test input into the voice portal (Figure 1 shows using a voice test file generated by a TTS engine used to test the voice path using recognition. This is a similar technique used to test the quality of recognition in Mahajan. Using a computer generated voice to generate the test file, Column 3 line 27, would inherently allow the test pattern to emulate whatever voice the computer

generation system was configured to produce. Further, it is well known in the art that

TTS engines can be configured to allow for the generation of multiple voice types,

although the claim language suggest that just one voice could be used.).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use the computerized speech generation as taught by Randic in

place of the human speaker as taught by Mahajan and Guerra in order to allow for more

efficient and more accurate quality analysis of the recognizer.

23.   Consider claim 12, Mahajan and Guerra teaches the computer program product

of claim 7, but does not specifically teach modifying the test pattern to emulate the

influence of one or more communications network qualities prior to entering the test

input into the voice portal.

In the same field of speech testing, Randic suggests modifying the test pattern to

emulate the influence of one or more communications network qualities prior to entering

the test input into the voice portal (figure 3 shows passing the voiced speech pattern

through a transmission scheme in order to evaluate the effect that the voice channel

has on recognition; column 4, line 31- column 7 line 29.).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to combine the analysis of the voice channel as taught by Randic with

the speech recognition quality evaluation of Mahajan and Guerra in order to make the

speech recognizer more robust.

24.   Consider claim 13, Mahajan teaches a system for evaluating the quality of voice

input recognition by a voice system having a speech recognition engine (figure 3),

comprising:

        an analysis interface for extracting a set of current grammars from the voice

system a portion of training text is selected to be spoken 304, Figure 3, Column 5 line

11.);

        a test pattern generator for generating a test input for each current grammar, the

test input including a test pattern and a set of active grammars corresponding to each

current grammar (At step 202, a portion of training data 304 is spoken by a person 308

to generate a test signal; Column 5 line 11.); ;

        an apparatus for entering each test pattern into the voice system (At step 202, a

portion of training data 304 is spoken by a person 308 to generate a test signal; Column

5 line 11.);

        a results collector for analyzing each test pattern entered into the voice system

with the speech recognition engine against the set of active grammars corresponding to

the current grammar for said test pattern (At step 204, the predicted sequence of

speech units is aligned with the actual sequence of speech units from training data 304;

column 5. line 37.); and

        a results analyzer for deriving a set of statistics of a quality of recognition of each

current grammar (Under one embodiment, this objective function is an error function

that indicates the degree to which the predicted sequence of speech units differs from

the actual sequence of speech units after the alignment is complete; column 5, lines 44-47.).

But Mahajan does not specifically teach that the voice system is a voice portal.

In the same field of speech systems, Guerra teaches that the voice system is a voice portal (voice portal system, figure 4 and abstract.)

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention for a voice portal to be the voice system being tested and developed as taught by Guerra with the testing system of Mahajan in order to facilitate the desired feature of Guerra on the fly grammar updates (Guerra 0108).

But Mahajan and Guerra does not teach specifically using a text to speech engine to enter data into the voice porthole.

In the same field of speech signal testing, Randic teaches using a text to speech engine to generate test signals for a system (Figure 1 shows using a voice test file generated by a TTS engine used to test the voice path using recognition. This is a similar technique used to test the quality of recognition in Mahajan. Using a computer generated voice to generate the test file, Column 3 line 27, would inherently allow the test pattern to emulate whatever voice the computer generation system was configured to produce.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the computerized speech generation as taught by Randic in place of the human speaker as taught by Mahajan and Guerra in order to allow for more efficient and more comprehensive quality analysis of the recognizer.

25.   Consider claim 15, Mahajan and Guerra in view of Randic teaches the system of

claim 13, but does not specifically teach modifying the test pattern to emulate one or

more user voices prior to entering the test input into the voice portal.

        However Randic teaches modifying the test pattern to emulate one or more user

voices prior to entering the test input into the voice portal (Figure 1 shows using a voice

test file generated by a TTS engine used to test the voice path using recognition. This

is a similar technique used to test the quality of recognition in Mahajan. Using a

computer generated voice to generate the test file, Column 3 line 27, would inherently

allow the test pattern to emulate whatever voice the computer generation system was

configured to produce. Further, it is well known in the art that TTS engines can be

configured to allow for the generation of multiple voice types, although the claim

language suggest that just one voice could be used.).

        Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use the computerized speech generation as taught by Randic to

emulate a user voice in order to allow for more efficient and more accurate quality

analysis of the recognizer.

26.   Consider claim 16, Mahajan teaches the system of claim 13, wherein the test

pattern generator is modified to emulate the influence of one or more communications

network qualities prior to entering the test input into the voice portal. (figure 3 shows

passing the voiced speech pattern through a transmission scheme in order to evaluate

the effect that the voice channel has on recognition; column 4, line 31- column 7 line

29.).

27.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mahajan

in view of Guera in view of Randic as applied to claim 13 above, and further in view of

Reich.

28.   Consider claim 14, Mahajan, Guerra in view of Randic teaches the system of

claim 13, including comparing recognition results for the test input with an expected

value to assess the measure of quality of recognition for each current grammar (Under

one embodiment, this objective function is an error function that indicates the degree to

which the predicted sequence of speech units differs from the actual sequence of

speech units after the alignment is complete; column 5, lines 44-47.). but does not

specifically teach that the statistics include a confidence level and a set of n-best results

for each test input.

        In the same field of speech recognition, Reich teaches the step of deriving a

confidence level and a set of n-best results for the test input (figure 4 shows step 420,

confidence scores are determined, step 460 N best candidates are selected.),

Therefore it would have been obvious to one of ordinary skill in the art at the time of the

invention to use the confidence scores and N best candidates as taught by Reich and

compare them with an expected value to determine a quality of the recognition as

taught by Mahajan in view of Guerra in view of Randic in order to provide a more robust

method of evaluating a recognition system by allowing one to spot ambiguities in the

recognition.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to DOUGLAS C. GODBOLD whose telephone number is

(571)270-1451. The examiner can normally be reached on Monday-Thursday 7:00am-

4:30pm Friday 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

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